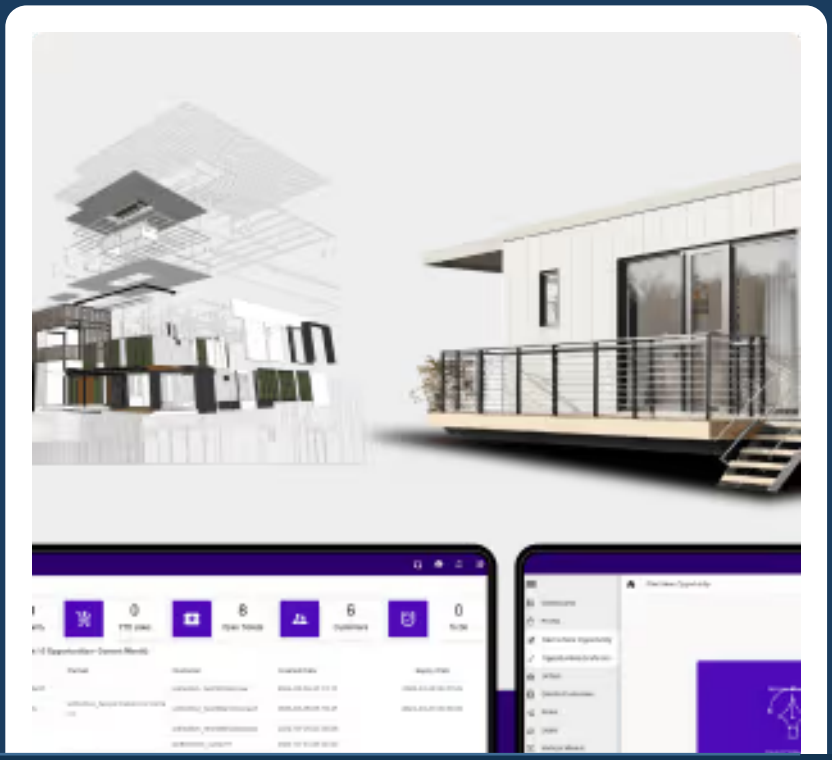
Modular Construction Design System

A Softnotions Technologies case study on building a web-based platform for modular architectural design.



Modular Construction Design System

Softnotions Technologies, a trusted software development company, developed a web-based Modular Construction Design System that helps architects, engineers, and construction professionals design and visualize modular structures with greater accuracy, efficiency, and collaboration.

Business Objective

Architectural drawings have evolved from manual paper drawings to modern software solutions. Tools such as AutoCAD simplified the process but demanded specialized knowledge. Softnotions set out to design a user-friendly tool that allows anyone to create detailed architectural plans, regardless of expertise — usable for designing new modular buildings or renovating existing ones, with full construction views, dimensions, elevation and sectional views, space plans, and material details for components like windows, doors, and roofs.

Business Challenges

Developing this application for the commercial construction industry posed several challenges. Standardizing diagrams to reduce construction costs and improve quality was a critical requirement. The application's complexity demanded extensive domain knowledge and technological expertise that many businesses lack in-house. Maintaining application quality while minimizing resource utilization was another key challenge, along with ensuring the platform stayed scalable and compatible across devices, platforms, and locations.

Solutions Proposed

To address these challenges, Softnotions worked closely with the client to acquire the necessary domain knowledge for development. The team built a 3D-view application designed to be compatible with any device, so that even users with basic 3D knowledge could operate it easily. This project is one of many successful Software Development Case Studies that showcase Softnotions' ability to deliver innovative, scalable digital solutions. The result transformed architecture drawings from individual pieces into a comprehensive computerized plan, enabling faster construction decisions during the real-time design stage and streamlining the entire drawing creation process.

Technologies and Tools

- Slack – team conversations, meetings, and document sharing
- Proto.io – prototyping screen interfaces
- Lucidchart – visualizing diagrams and architecture

- Git – source code management
- Jira – project management
- Figma – building digital product designs

Key Features

- Easy conversion from draft to final quote
- Print option in PDF format
- Draft viewing and navigation
- Simple design with easy navigation
- Issue reporting and management
- Reporting and analytics

Impact

- High efficiency and productivity, allowing professionals to focus on more critical aspects of their projects
- Significant time and cost savings by minimizing rework and material wastage
- Real-time collaboration among team members
- Precise designs through computerized planning and automated structural analysis
- Cloud integration and high-quality, professional documentation

Source: softnotions.com/case-studies/modular-construction-design-system